Department of Health and Environmental Sciences
STATE OF MONTANA HELENA, MONTANA 59601

John S. Anderson M.D.
DIRECTOR

December 6, 1973

Board of County Commissioners, Courthouse, Billings
City-County Planning Board, Courthouse, Billings
Mr. Allen Bond, Sanitarian, Courthouse, Billings
Mr. Alf Hulteng, Branch Office, Box 20296, Billings
Yellowstone Development Council, Room 202 Courthouse, Billings
Billings Gazette, Billings
Environmental Quality Council, Helena
Fish and Game Department, Helena
Dept. of Intergovernmental Relations, Division of Planning, Helena
Mr. Robert A. Lenhardt, 4345 King Avenue West, Billings
Canyon Creek Development Association, Box 1315, Billings
Mr. Robert Bernhardt, Chairman, Board of Trustees, School District #8, Laurel
Hurlbut, Kersich and McCullough, 937 Grand Avenue, Billings
Mr. David Folsom, Route 4, Billings
Student Environmental Research Center, Room 212 Venture Center, Missoula
Montana State Library, Helena
Rick Graetz, Box 894, Helena

Gentlemen:

This impact statement is submitted for your consideration. Comments and questions will be accepted for 30 days following issuance of this statement. An additional 15 days will be available upon request.

Sincerely yours,

D. G. Willems

D. G. Willems, P.E., Chief
Water Quality Bureau
Environmental Sciences Division

DGW:APK:sh
Enclosure
cc: Ben Wake

MONTANA STATE DEPARTMENT OF HEALTH
AND
ENVIRONMENTAL SCIENCES

December 6, 1973

DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR
TANGLEWOOD LAKE ESTATES,
A proposed subdivision in Yellowstone County, Montana

Pursuant to the Montana Environmental Policy Act, Section 69-6504 (b) (3); and the act controlling both public and private water supply and sewage disposal for subdivisions, Section 69-5001 through 5005; and the act to control water pollution, Section 69-4801 through 4827, the following statement was prepared by the Environmental Sciences Division of the Department of Health and Environmental Sciences for Tanglewood Lake Estates, a proposed subdivision near Laurel, Montana, for which a submittal has been received requesting certified subdivision approval.

Location

This project is located approximately seven miles west of Billings and 4.5 miles northeast of the city of Laurel in Section 14, Township 1 South, Range 24 East, MPM, Yellowstone County, Montana (see attached map).

Description of proposed project

The owners would divide 380 acres into approximately 230 lots. Engineering studies have been completed and a request submitted to grant certified approval to 84 of the lots within the Tanglewood Lakes Subdivision. These lots (Block 4, Lots 5 to 14; Block 5, Lots 14 to 33; Block 8, Lots 6 to 19; Block 9, Lots 1 to 4; Block 10, Lots 1 to 14 and Block 11, Lots 1 to 23) total 95.7 acres ranging in size from 104,453 to 21,561 square feet. In addition, there is a 75-acre park which includes a 19-acre lake with a proposed boat dock, picnic area and sand beach. Two smaller lakes are located on the property and are included as park area in the master plan.

The property is served by the Montana Power Company. County roads border the proposed development on the south and east with all roads within the project to be maintained by the county.

At least three private refuse hauling contractors are available for solid waste disposal in Yellowstone County. Disposal of refuse by these haulers is in the Billings or Laurel sanitary landfill. At present, these haulers see no future problem with respect to disposal as they pay the landfill on a per-load basis.

The cities of Billings and Laurel, Yellowstone County and the ten counties of the Southcentral Montana Development Federation are actively engaged in establishing regional and/or local solid waste collection and disposal plans. Tanglewood Lake Estates is within the planning area, which should insure that satisfactory solid waste collection and disposal will be available now and in the future.

Individual cisterns with water furnished by a commercial water hauler would serve as the water source for the residential units. Several commercial water haulers are presently operating in Yellowstone County, and a sufficient supply of potable water is available on a metered basis from the city of Laurel. A piped irrigation system is proposed to serve the residential lots.

It is anticipated to use this distribution system for domestic purposes at some future time when a sufficient supply of potable water is made available. The proposed Calamity Jane Reservoir, which is to be built in the area, may serve as this water source.

Wastewater disposal would be by septic tanks and subsurface drainfields where geologic, topographic, edaphic and groundwater conditions permit. On lots where the above conditions are unsatisfactory, an evapotranspiration system is proposed. This type of system is proposed to overcome the following unsatisfactory conditions on the following lots:

1. Percolation rate equal to or greater than one inch per 60 minutes.

Block	Lots
4	9, 11, 14
5	23
8	6, 11, 12, 13, 14
9	1, 3
10	3, 5, 6, 7, 8, 11
11	2, 6

2. Proximity to lake.

Block	Lots
9	4
11	1, 2, 3, 4, 5, 6, 7, 8

3. Topographic slopes too steep for drainfield purposes.

Block	Lots
10	11, 12, 13, 14
11	22, 23

4. Shallow water table.

Block	Lots
4	5, 11, 12, 13, 14
11	23

Physical Resources

This proposed development occupies a broad, sloping stream terrace that has been dissected by several intermittent streams. The bedrock consists of Colorado shale. This formation was not encountered in any of the test pits excavated by the consulting engineers, Hurlbut, Kersich and McCullough.

Soils in the area are primarily clay loams or silty clay loams. Percolation tests conducted on each of the 84 lots by the consulting engineers showed that 19 lots had percolation rates of less than 60 minutes per inch, which indicates unsatisfactory conditions for subsurface sewage disposal on these lots.

Groundwater occurs along the major draws in the area and is believed to be seepage from the Cove Ditch which runs through the area. Groundwater elevations of less than six feet below the surface were encountered on Lots 5, 11, 12, 13 and 14 of Block 4 and Lot 23 of Block 11.

Surface Resources

The native vegetative cover is dominated by needle grass, western wheat grass, sagebrush and broom snakeweed. Most of the area has been irrigated and used as pasture. The development will have little effect on wildlife as the area has been occupied by domestic livestock and is adjacent to cultivated farm land.

Probable Environmental Impacts

Impacts from development of this property would fall within the range associated with residential use of an irrigated pasture land. A visual impact would result from the proposed development. A pastoral landscape would be replaced by a low density residential development. The severity of this impact is a matter of speculation and the desirability a matter of personal aesthetic values.

The potential for significant air pollution seems minute as the only source would be dust from roads and emissions from residential heating plants.

The proposed subdivision would have an adverse effect on the non-game mannals and birds that occupy the area. This is an unavoidable consequence associated with any residential development. The vegetation would be altered as a consequence of converting irrigated pasture to horticultural plant materials used in landscape design.

The primary impacts of the proposed development would be social in nature. The local grade school has an enrollment of approximately 100 students, and the development of 230 lots would necessitate a school building program. Robert Bernhardt, Chairman of the Board of Trustees of School District #8 has indicated that the school district cannot financially cope with further development of platted grounds in the school district.

There are many feedlots in the area, most of which are farm feedlots. The livelihood of the owners of these operations will be threatened following development in the area. Taxes will increase due to added education demands.

Alternatives available to this department

1. Grant certified plat approval of the subdivision as submitted. Because of the physical nature of this property, the department finds this alternative unacceptable.

2. Grant certified plat approval on all the lots after modifications have been made that bring all lots into minimum compliance with department requirements. It would be feasible to alleviate the high groundwater problems on Lots 5, 11, 12, 13 and 14 of Block 4 by lining the ditch that borders these lots.

3. Refuse to grant certified plat approval for the proposed subdivision. The environmental review process did not indicate the department can legally justify this action.

4. Grant certified plat approval on that part of the property that can meet department requirements with respect to water supply, sewage disposal, solid waste and water quality. This alternative could be implemented under the following conditions:

   a. Due to the present high groundwater conditions on Lots 5, 11, 12, 13 and 14 of Block 4 and Lot 23 of Block 11, this department cannot grant certified approval to these lots.

   b. Due to the steep topography of the land, this department cannot grant certified approval to Lots 11, 12 and 13 and 14 of Block 10 and Lots 22 and 23 of Block 11.

   c. That a sewage disposal system that does utilize a subsurface drainfield be installed on the lots with unsatisfactory percolation rates - Lots 9, 11 and 14 of Block 4; Lot 23 of Block 5; Lots 6, 11, 12, 13 and 14 of Block 8; Lots 1 and 3 of Block 9; Lots 3, 5, 6, 7, 8 and 11 of Block 10 and Lots 2 and 6 of Block 11. It would be recommended that the same conditions apply to Lot 4 of Block 9 and Lots 1 through 8 of Block 11 due to their close proximity to the lake.

In the event an enclosed evapotranspiration system is considered for these lots, it should be remembered that they are experimental in nature, are expensive to install, may have a limited usable time period, and have to be enlarged and may require considerable maintenance. A pipe to monitor the depth of liquid in the system would be required. Suitable space must be available on each lot for expansion of any evapotranspiration system. In no case would they be acceptable where there exists high groundwater conditions or slopes in excess of 10 percent.

Short-term/Long-term comparisons

The long-term worth is best represented by the economic value the land offers as irrigated pasture. In the short-term, the land is most economically valuable as a residential development.

Irreversible commitment of Resources

There would be a commitment of non-recyclable building materials used in the construction of homes. The proposed subdivision would break the land into a multiplicity of ownerships, which would probably be irrevokable.

This statement was prepared by Alfred P. Keppner, Soils Scientist, Water Quality Bureau, with information furnished by the developer, Hurlbut, Kersich and McCullough, Consultants, Billings; the Soils Conservation Service, the Yellowstone County Health Department and the Montana Bureau of Mines and Geology.

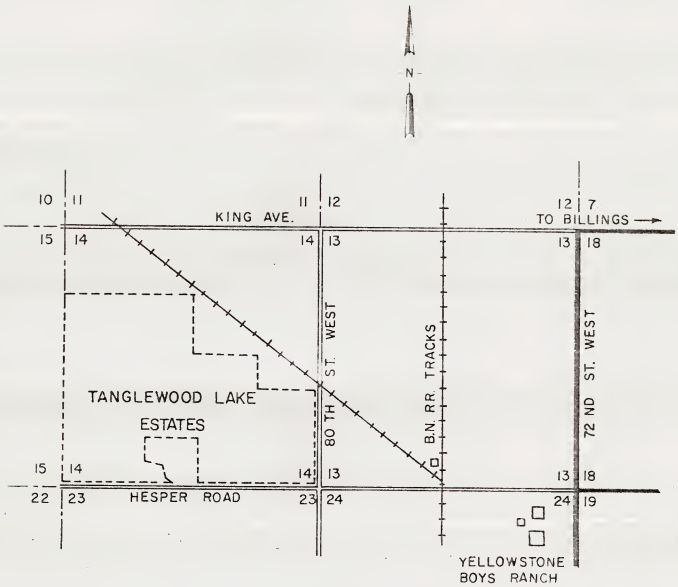

EXHIBIT 1.

VICINITY MAP
OF
TANGLEWOOD LAKE ESTATES